EXHIBIT O

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

COREPHOTONICS LTD.,
Patent Owner

Declaration of José Sasián, PhD
under 37 C.F.R. § 1.68

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II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

6. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in Ex.1004. The following is a brief summary of my relevant qualifications and professional experience.

7. As shown in my *curriculum vitae* (Ex.1004), I have extensive academic and industry experience with optical engineering. Specifically, I have over thirty years of academic and industry experience in the field of optical sciences and optical engineering in general, including optical instrumentation, optical design, and optical fabrication and testing.

8. I am currently a full-time, tenured Professor of Optical Sciences at the College of Optical Sciences at the University of Arizona in Tucson, Arizona, a position I have held since 2002. As a professor, I teach and perform research in the field of optical design. For example, I teach my students how to design lenses and mirrors and how to think about light so that they can design useful optical systems.

9. As part of my academic and research responsibilities I am frequently involved with the design, fabrication, and testing of optical devices. Prior to receiving tenure, I was an Associate Professor of Optical Sciences at the University of Arizona from 1995 to 2001. Prior to joining the University of Arizona faculty, I was a member of the technical staff of AT&T Bell Laboratories from 1990 to 1995. From 1984 to 1987, I was a Research Assistant, and from 1988 to 1990, I

was a Research Associate, in the Optical Sciences Center at the University of Arizona. From 1976 to 1984, I was an optician at the Institute of Astronomy at the University of Mexico.

10. I received a Bachelor of Science degree in Physics from the University of Mexico in 1982, a Master of Science degree in Optical Sciences from the University of Arizona in 1987, and a Ph.D. degree in Optical Sciences from the University of Arizona in 1988. My research areas include optical design, fabrication, and testing of optical instruments, astronomical optics, diffractive optics, opto-mechanical design, light in gemstones, lithography optics, and light propagation.

11. At the University of Arizona, I have taught the courses Lens Design OPTI 517 (1997-present), Introduction to Aberrations OPTI 518 (2005-present), Advanced Lens Design OPTI 696A (2008, 2012, 2017), Illumination Optics Seminar (1997-2000), Introduction to Opto-mechanics OPTI 690 (1998, 2001, 2003, 2004, 2005) and Optical Shop Practices OPTI 597A (1996-present). I teach students how to design lens systems, how to grind, polish, and test aspheric surfaces, how to mount lenses properly so that their physical integrity is preserved, and how to align lens systems.

12. I have directed several student reports, theses, and dissertations in the areas of lens and mirror design. I have lectured regarding my work, and have

published, along with students and colleagues, over one hundred scientific papers in the area of optics. These include technical papers, student reports and theses done under my direction, related to miniature lenses. For example:

- Yufeng Yan, Jose Sasian, "Miniature camera lens design with a freeform surface," Proc. SPIE 10590, International Optical Design Conference 2017, 1059012 (27 November 2017); doi: 10.1117/12.2292653
- Dmitry Reshidko, Jose Sasian, "Optical analysis of miniature lenses with curved imaging surfaces," Appl. Opt. Oct. 54(28):E216-23, 2015.
- Sukmock Lee, Byongoh Kim, Jiyeon Lee, and Jose Sasian, "Accurate determination of distortion for smart phone cameras," Applied Optics, Vol. 53, Issue 29, pp. H1-H6 (2014).
- Ying Ting Liu, "Review and Design of a Mobile Phone Camera Lens for 21.4 Mega-Pixels Image Sensor," M. Sc. Report, University of Arizona, 2017.
- Luxin Nie, "Patent Review of Miniature Camera Lenses," M. Sc. Report, University of Arizona, 2017.
- Cheng Kuei-Yeh, "Cell phone zoom lens design and patent research," M. Sc. Report, University of Arizona, 2010.
- Rob Bates, "Design for Fabrication: Miniature Camera Lens Case Study," M. Sc. Report, University of Arizona, 2008.

13. Since 1995, I have been a consultant and have provided to industry solutions to a variety of projects that include lenses for cell-phones, lenses for microscopes, and lenses for fast speed photography. I also have consulted in the area of plastic optics. I hold patents and patent applications related to lens systems.

14. I have been a topical editor and reviewer for the peer-reviewed journals Applied Optics and Optical Engineering. I am a fellow of the International Society for Optics and Photonics (SPIE), a fellow of the Optical Society of America (OSA), and a lifetime member of the Optical Society of India.

15. I have served as a co-chair for the conferences “Novel Optical Systems: Design and Optimization” (1997-2006), “Optical systems alignment, tolerancing, and verification” (2007-2017), and “International Optical Design Conference,” (2002). I have taught in Japan (2014, 2016, and 2017) the course: Advanced Lens Design: Art and Science.

16. I have been a co-editor of approximately 21 published conference proceedings from SPIE. I am the author of the book, "Introduction to Aberrations in Optical Imaging Systems," by Cambridge University Press, 2013. I am named as an inventor on approximately 13 U.S. patents.

17. My *curriculum vitae* (Ex.1004), includes a more detailed summary of my background, experience, and publications.

III. LEVEL OF ORDINARY SKILL IN THE ART

18. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

19. I am familiar with multi-lens optical systems (including those found in portable devices such as mobile phones). I am also aware of the state of the art at the time the application resulting in the '712 patent was filed. I have been informed by Apple's counsel that the earliest alleged priority date for the '712 patent is July 4, 2013. Based on the technologies disclosed in the '712 patent, I believe that a person having ordinary skill in the art ("POSITA") would include someone who had, at the priority date of the '712 patent, (i) a Bachelor's degree in Physics, Optical Sciences, or equivalent training, as well as (ii) approximately three years of experience in designing multi-lens optical systems. Such a person would have had experience in analyzing, tolerancing, adjusting, and optimizing multilens systems, and would have been familiar with the specifications of lens systems. In addition, a POSITA would have known how to use lens design software such as Codev, Oslo, or Zemax, and would have taken a lens design course.

20. Lack of work experience could have been remedied by additional education, and vice versa. Such academic and industry experience would be necessary to appreciate what was obvious and/or anticipated in the industry and what a POSITA would have thought and understood at the time. Based on this criteria, as of the relevant time frame for the '712 patent, I possessed at least such experience and knowledge of a POSITA. Some of my past students would have qualified as POSITAs, hence I am qualified to opine on the '712 patent.

21. For purposes of this Declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the field as of July 4, 2013. Unless otherwise stated, when I provide my understanding and analysis below, it is consistent with the level of a POSITA prior to the priority date of the '712 patent.

IV. RELEVANT LEGAL STANDARDS

22. I understand that prior art to the '712 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the '712 patent. For purposes of this Declaration, I have been asked to apply July 4, 2013, the earliest alleged priority date, as the priority date.

23. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '712 patent, I am relying on certain basic